

Bleaching and Brightness Stabilization of Lignocellulosic Materials with Water-Soluble Phosphines or Phosphonium Compounds

ABSTRACT

5

A method for the bleaching and brightness stabilization of lignocellulosic materials is described. The method involves the treatment of lignocellulosic materials, in particular, (a) wood pulps such as thermomechanical pulps (TMP) and chemithermomechanical pulps (CTMP), and (b) papers made from wood pulps, with a

10 water-soluble phosphine or a phosphonium compound preferably containing at least one phosphorus hydroxyalkyl bond/linkage, for example a phosphorus hydroxymethyl bond/linkage (P-CH₂OH). One example of such a water-soluble phosphine is the commercially available, tris(hydroxymethyl)phosphine (THP), P(CH₂OH)₃. One example of such a phosphonium compound is the commercially available,

15 tetrakis(hydroxymethyl)phosphonium chloride (THPC), [P(CH₂OH)₄]Cl.